Neurodynamic Solutions

Hybrid Upper and Lower Quarter 1

Course Outline

All courses on neurodynamics are based on Michael Shacklock's international best seller physical therapy text book, Clinical Neurodynamics, Elsevier, Oxford, 2005. They also internationally standardised and transferable to other countries.

General

Course Highlights - General

- Strong hands-on and discussional elements
- Many new manual techniques for the most significant neural problems seen in musculoskeletal practice
- Systematic treatment progressions for radiculopathy (cervical and lumbar), shoulder, elbow and wrist, hip/piriformis, hamstrings and ankle and foot pain.

What Attendees Learn

- Understand how nerves move
- Painless nerve root mobilisations
- How to exclude neurodynamic disorders
- Differentiate between musculoskeletal and neurodynamic components
- Make a neurodynamic diagnosis
- Technique progressions from low to high functional levels
- How to create, select and perform the most accurate techniques for patients
- Manual precision of neurodynamic technique
- How to detect contraindications for neurodynamic treatment

Course Objectives

Improve and develop:

- Manual skills, specifically the ability to feel abnormalities in movement related to the nervous system in the upper quarter
- Abilities in diagnosis and interpretation of neurodynamic testing and musculoskeletal relationships
- Clinician’s repertoire of diagnosis and treatment of techniques safety in relation to neurodynamics
- Ability to diagnose functional disorders in neurodynamics
- Ability to select appropriate treatment for specific functional disorders in neurodynamics

- Ability to progress treatment from low to high functional levels
- Ability to detect contraindications to neurodynamic treatment and when to stop treatment for safety reasons.

Highlights

General neurodynamic principles (neurodynamics laws) applied to the entire body - upper and lower quarter, including:

- Lumbar spine, sciatic nerve and hip, tibial nerve for foot/heel pain
- Cervical spines, shoulder/brachial plexus, lateral elbow and wrist, carpal tunnel.

Classifications of structures and mechanisms for diagnosis and treatment
neurodynamic sequencing - a mechanism that can be used to make neurodynamic technique more specific than in the past

How to:

- Differentiate (and exclude) nerve from other tissues with mechanical testing
- Make diagnosis and treatment more specific than before.

Concept of neurodynamics:

- Neurodynamic principles applied to the entire body
- Neurodynamic sequencing - making neurodynamic technique more specifically
- How to differentiate nerve from musculoskeletal tissues
- Method for selection and creation of progressions
- Severe neural pain progressed to high performance
- Bilateral and contralateral neurodynamic testing.

Neurodynamic tests for:

- Lumbar spine, sciatic nerve and hip, tibial nerve for foot/heel pain
- Cervical spines, shoulder/brachial plexus, lateral elbow and wrist, carpal tunnel
- Acute care/first aid for the lumbar and cervical nerve root utilising newly validated neurodynamic mechanisms.

Online Component

- Online access: 3 months
- Lessons: 117, 14 hrs
- Format: text and videos, compulsory viewing to each stage.
- Theory (compulsory and tested) released one month prior to in-person component.
- In-person practical component (2 days): review of theory and all practical techniques taught
  and practised by attendees.
- Release remaining online content (practical techniques) on close of in-person component (further 2 months).
- Online sample
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- Certificate of attendance given.
- Certificate digitally unique per attendee.
- To receive certificate of attendance, attendee must:
  - complete online course attendance agreement not to copy or teach the material and to take responsibility to apply all techniques safely on subjecs and patients, including taking into account contraindications as demonstrated in the course lectures and practical sessions.
  - complete course material - electronically monitored.
  - pass through all compulsory stages of online course material - electronically monitored.
  - attend at least 80% of in-person component verified by course host.

In-person Component

- 2 days (16 hrs)

Combined Course Times

Online

- Over 3 months.
- Lessons: 117, 14 hrs.
- Format: text and videos and tests.
- Theory: 8 hours compulsory theory (tested).
- Practical: 8 hours, not compulsory, not tested, not accounted for in total course time.

In-person

- 2 days (16 hrs).

Total course time

- Online 14 hrs, in-person 16 hrs - total 30 hours.

In-person Component

Day 1 - Programme

8 hours

DAY 1 - 8:00 am - 5.00 pm

8:00-10.30 Brief overview of concepts.
- neurodynamic test response categories
- patient levels for technique selection
- neurodynamic test response categories: musculoskeletal, neurodynamic, normal, abnormal
- diagnostic categories and their detection: interface, neural siding tension, pathophysiology

10-30-11.00 Morning tea

11.00-12.30 Nerve Palpation

Introduction of concepts - reasoning, diagnosis, comparison, contact points, pressure.

Palpation techniques:
- foot: superficial and deep fibular, sural, tibial nerve at tarsal tunnel
- knee: common fibular, tibial nerves
- hip and thigh: sciatic nerve, piriformis and gluteal muscles.

12.30-1.30 Lunch

1.30-3.00 Palpation continued:
- wrist: median and motor branch, ulnar nerve Guyon's canal
- forearm: radial sensory nerve
- elbow: median, radial, posterior interosseous, ulnar nerves
- shoulder: brachial plexus lower cervical spinal nerves
- neck: brachial plexus lower cervical spinal nerves.

3.00-3.20 Afternoon tea

3.20-5.00 Neurodynamic Tests: practical
- median nerve 1 and 2, brachial plexus and nerve roots
- ulnar neurodynamic test
- radial neurodynamic test
- straight leg raise

DAY 2 - 8:00 am - 5.00 pm

8 hours

8.00-10.00 Neurodynamic Tests continued.

- slump test
- tibial, peroneal and sural neurodynamic tests

Diagnosis with Neurodynamic tests in diagnosis

Brief review of response categories if necessary. - practical

- musculoskeletal, normal, abnormal covert and overt responses

Practise:

- remembering and producing (miming) neurodynamic response categories
- musculoskeletal, neurodynamic, normal, abnormal (overt, covert)
- test and classify responses in individuals on the course.

- classify neurodynamic responses in colleagues and discuss with group
- discuss how the decsions on response were made
- discuss/demonstrate how to connect response with other aspects of the physical examination.

Task: Classify the responses in your colleague for the following tests:

- MNT1
- UNT
- staight leg raise
- slump test.

If there is an abnormality, discuss how to complete the physical examination in relation to the test response .

10.00-10.30 Treatment Method - if necessary, brief review: first aid (unload), rehabilitation, perfomance

Treatment techniques:

- lumbar: low back and radicular pain, opening, closing, neural tension, sliding dysfunctions.
- questions and discussion

10-30-11.00 Morning tea

11.00-12.30 Treatment - practical

- hip and thigh: sliders, tensioners, openers, closers, 3c
- foot: tibial nerve, tarsal tunnel syndrome.

- neck pain and cervical radiculopathy: Interface opening and closing dysfunctions
- cervical neural tension dysfunction:

- contralateral level 1 nerve root techniques
- level 2, 3a neurodynamic techniques

12.30-1.30	Lunch
1.30-3.00	**Treatment (cont) - practical**
	Cervical - continued - combined opening and closing dysfunctions with neural tension - multistructural
	Lateral elbow pain: - supinator tunnel syndrome) opening, closing sliders, tensioners
	Carpal tunnel syndrome, openers and closers, sliders and tensioners, multistructural
3.00-3.20	Afternoon tea
3.20-5.00	**Review and discussion, reasoning clinical cases, quizes, close.**

Total contact time - 16 hours

Key References

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